

So you want to get connected to the Internet? This can be daunting and confusing for the first timer, let alone a first time Senior. There seems to be more sales talk and geek tech stuff than you can point a stick at or jump over. So take a deep breath and start reading. Demystification is at hand!

What are some typical questions that a new starter needs to consider?

- What is your monthly budget?
- How much can you afford as a one off payment?
- How much use do you think you will make of the Internet?
- Do you have a fixed phone line already? What are your usual phone calls?
- Do you need mobility?
- Are you prepared to be on a contract?
- What is your existing mobile phone plan – does it have some data included?
- Are you prepared to do direct debit?
- Are you willing to swap phone providers and/or bundle internet and phone?

I don't understand the terms they use? New terms are typical of any new technology. When you mix in sales talk then it's little wonder people get confused. So here are some of the important ones (Note: there are drawings on the back page showing where some of these terms fit in):

Modem. Its technical name is a modulator / demodulator. It's also called an **ADSL Modem**. It connects your computer, via the phone system, to an **ISP**. Basically it transmits and receives digital signals, corrects errors and 'negotiates' suitable speeds that give good reliable data transmission rates. A modem may also contain a '**router**' and/or a **wireless access point (Wi-Fi)** which allows multiple computers at the one location to share the same internet connection.

Wireless Modem. Does the same as the above modem except it uses the mobile phone system to connect to the **ISP**. It's often called a 'dongle' as it sticks out the side or back of your computer (use your imagination!). There are several systems, each with many 'sales speak' badges.

- **2G** – VERY slow to the point of being unusable for the Internet
- **3G** – typically around 1500 kbps speed or better Also called 'Next G'
- **4G** – The new boy on the block

ISP stands for Internet Service Provider. They are companies that provide the necessary connections to the **Internet** plus an included **email address**. On a plan they charge a monthly fee for access and for so many **gigabytes** of data. Some offer prepaid plans. All phone companies also have an ISP branch viz: Telstra – Bigpond; Optus – OptusNet. Plus many other ISP's also provide phone services by buying the service from Telstra and Optus – Virgin for example just rebadges Optus products.

Wireless access point (Wi-Fi). Wi-Fi is a low powered wireless system that has about 50-80 meters range. It enables a computer to connect to a Wi-Fi enabled modem or to other Wi-Fi devices like printers. Wi-Fi is usually used in a home, café or office type area. Wi-Fi allows other suitably equipped Wi-Fi devices in range to share the internet connection. Modern laptops come with Wi-Fi built in, as do some phones, ipods and e-readers. (Bluetooth is yet another wireless system and its even lower power. Bluetooth is usually used to connect a wireless mouse, mobile phones, cameras and watches to a Bluetooth enabled computer.)

Filter. Filters are only required when you have a modem connected to the phone line. Filters allow simultaneous use of a phone and modem. Without a filter you will hear the sound of the modem, and it may even cause the modem to disconnect (called drop out).

ADSL. If you really must know it stands for Asymmetric Digital Subscriber Line. This is the standard used for communication between the modem and the telephone exchange. ADSL has two sets of speeds – a fast one for receiving information (called its **download** speed), and a much slower one for sending information (called its **upload** speed), hence the word 'Asymmetric'. Typical Download/Upload speeds you will see quoted are 512k/128k; 1500k/256k. Speeds are more correctly shown as 1500/256**kbps**. The 'k' means thousands and 'bps' means bits per second. So 512k or 512kbps means 512,000 bits / second. A 'bit' being a single '1' or '0' which is what the whole computer and internet runs on.

Router. This allows you to create a wired network within your house or small office. Why would you want to do that? It allows multiple computers to share items such as the internet connection; printers; backup storage. A router manages who is who on the network. Routers often come with a built in modem and/or a wireless access point. If they don't then you can usually plug one into it. A combined router, modem, Wi-Fi access point start from around \$110. ISP's will often include them if you sign up for a contract, however be aware that what they supply is often budget models and locked to their ISP system.

Email address. Your ISP will give you one as part of your plan when you sign up with them. You will need to periodically check it as it's usually how the ISP will communicate with you. The problem with using it for all your email usage is that should you decide to later change to another ISP then you have to tell everyone about your new email address. The ISP email addresses are also very small in storage size and can quickly fill up. I much prefer to use a free Gmail, Hotmail or Yahoo mail 'webmail' account. They are free, have huge storage space and can be readily accessed from any internet connected computer.

Kilobytes, Megabytes, Gigabytes etc. These are easy once you know the order. They increase by a thousand in this order: Byte, Kilo, Mega, Giga, Terra, Exa and so on. 1 Kilobyte = 1,000 bytes; 1 Megabyte = 1,000,000 bytes; 1 Gigabyte is 1,000,000,000 bytes etc. You just need to make sure that when you are comparing plans that you're comparing the same values. Some sales material is pretty slick at mixing this. So what's a 'byte'? It's 8 'bits'.

Download and Upload. This refers to the direction the data is travelling. If you perform a search for some information on the internet, then the short search message you send is an upload, the result you get back is a download. When you send an email then that is uploading, receiving one is downloading. Receiving large pictures, music and video from the internet can be large users of your download allowance. The data allowance from some ISP's includes both uploads and downloads, for others its download traffic only.

Shaping. Each internet plan has a monthly allowance of so many Gigabytes or Megabytes of data. If you go over this amount before the end of the month then the ISP will reduce your speed back. This slowing down is called 'shaping'. Shaping is much better than the other method some ISP still use which is to charge you for any extra data you use, sometimes at astronomical rates that leave a nasty taste in your wallet.

Now that you have some idea of the 'techy' type terms, it's time to answer a few more questions you should have. Questions such as how do you do it and which way to go. You may need to read it more than once and ask lots of questions of others – BEFORE committing yourself. Make sure to refer back to the terminology and the drawings at the end of this paper.

How do I get connected to the Internet? Connection to the Internet is done by an **Internet Service Provider (ISP)**. There are around 100 ISP's and all offer a bewildering variety of plans, options, prices etc. Alternatively you can connect through someone else's ISP – for example a friend, relative or a free access point such as most McDonalds restaurants. There is a page of useful site further on in this document that has websites listing ISP's and their offerings. (Its Catch 22 isn't it to have a list of websites on how to pick an ISP so you can get on the Internet!)

Do I have to have the same ISP as for my phone? No you don't. The old days of being beholden to Telstra or Optus are long dead. However it does pay to investigate this as quite often you will get a discount for having your internet connection with your phone provider. Having both with the same supplier is termed '**bundling**'. All the ISP's and phone companies are quite competitive these days.

What connection methods are there? The two main ones are via your existing phone line or via the mobile phone network. Both systems require a **modem**. (For people in the major cities cable may be available; or rural areas may be eligible for satellite.)

Which is the best – existing phone line or a wireless modem system? There's no easy way to answer this. Some of the pluses and minuses of each are:

Using the existing phone line with an ADSL modem:

- Pluses: Usually a more reliable connection and faster speed; usually cheaper to run (ie more GB (gigabytes) for your buck); can bundle with your phone bill.
- Minuses: Higher one off connection cost; Not mobile away from your house; Can cost to move house; Often requires signing up for a contract for a reduced price

Using the mobile phone system with a wireless modem

- Pluses: Mobility; Can be reasonably fast if you're near a mobile phone tower with a clear line of sight; Can get prepaid or on a plan; Lowest setup cost; Requires a wireless modem ("dongle") although it is possible to connect via some existing mobile phones.
- Minuses: Can be frustratingly slow and unreliable; Speed also depends on how many people are using that phone tower; Mobility does not mean always great performance everywhere.

What equipment do I need, and what's it cost? Some, or all of the equipment, might or might not be provided by the ISP when you sign up so it's important to read and understand what you are buying. If you sign up to a contract then often the ISP will provide the modem &/or connection for 'free'.

- If you're going to use a connection to your phone line then you will need an **ADSL modem** (or ADSL modem/router) **PLUS a filter** for every phone you have connected to the phone line. There will also be a one off connection fee as they have to enable your phone line at the exchange (roughly \$100). Refer to the diagrams on the last page.
- If you're going to use a wireless modem 'dongle' then you will need to obtain one. These contain a mobile phone SIM card. There is no connection fee involved other than buying the dongle with its SIM card. Telstra Bigpond is the more reliable service simply because they have more mobile phone towers. Almost all the other ISP's use the Optus network.

Important: Before signing up for a contract with a wireless modem, or buying a pre-paid one, make sure you will get decent performance – ask others in the immediate area, get a friend who has one to visit and see what sort of reception they get at your house; get a guarantee from the seller what will happen if reception is crap – can you get a refund? Is there a cooling off period?

A poorly performing wireless modem connection will be the bane of your life.

Is the Mobile Phone wireless connection system the same as Wi-Fi? No, they are totally different. This often confuses new starters. See the terms section earlier.

My laptop has Wi-Fi. How do I connect to a Wi-Fi “Access Point”? To connect to one needs three steps:

1. The wireless access point needs to be turned on (pretty obvious). There is usually a light on the wireless access point or router that indicates that the Wi-Fi part is on. If it's not then there may be a button, or you will need to read the manual for that device to find out how to turn it on.
2. The Wi-Fi wireless in your laptop needs to be turned on. Turning it on, and knowing if it's on or off, varies widely with each laptop. Mine requires holding down the Fn key and tapping the F2 key, others are the Fn key and the F8 key, others have a dedicated switch or button. On some laptops a small light or LED will be lit, on others it's a screen message or icon. Read the instructions for your laptop.
3. Then, using a program in Windows, select the required wireless access point. The usual program is in Control Panel / Network and Sharing and then click on Manage Wireless Networks. Most wireless access points require a password to be entered on the laptop (often called a security key or a SSID). You will need to get that from the owner of that wireless access point and type it in. On some wireless access points or routers the SSID is printed under the device or is on a card that came with the device. (Note that if the owner of the access point is a little more security conscious then they may also have additional security settings such as 'MAC addressing'.)

The good news is that once you've setup the connection to a wireless access point, and provided the wireless in your computer is left on, then the laptop will automatically connect when you're in range.

OK, let's cut to the chase, how much internet speed and capacity do I need?

Speed. As mentioned back in the terms section, Internet speed is measured in Kbps (kilobits per second), or when the numbers get too big, in Mbps (megabits per second). Typical speeds are 256 Kbps; 512 Kbps, 1500 Kbps (aka 1.5 Mbps) and higher. The faster the better, but they obviously go up in cost too.

- 256 and 512 Kbps are fine for browsing the internet, getting and receiving emails, 'just' able to make Skype voice calls. You will get delays in trying to watch online videos or TV.
- 1500 Kbps (1.5 Mbps) allows for Skype video calls, online videos and TV watching. Browsing the internet will be smoother as will sending and receiving emails.

Capacity (aka data allowance, download allowance, upload and download allowance, monthly allowance etc) is measured in Gigabytes (GB) although some very limited plans are still quoted in Megabytes (MB). 2-5 GB should satisfy most light users. Videos, online TV watching and downloads are the big users. If you want that then aim for a higher GB plan. Grandkids can use lots if unsupervised. If you exceed your monthly allowance then you usually have your speed slowed (called 'shaping'). Avoid plans that charge extra if you exceed your allowance – their excess charges can be exorbitant.

HELP!! You've fiddled with my brain and confused me. All I want is a cheap internet connection to see whether I really want to use it more. I just want to dip my toe in the water. I don't want to lock into a long contract. I don't want direct debit. It's only one computer to be connected. Tell me – NOW!

I would suggest a prepaid wireless modem. Cost from \$50 - \$100 and it will come with some data allowance for 30 days. You can then top it up. You get best 'bang for your buck' with a large top up rather than the smaller ones. The most cost effective top up is about \$150 worth of data (10 – 12 GB) that is good for 12 months. You can buy top up vouchers from Big W, K Mart, Dick Smith etc or do it over the Internet or phone.

HOWEVER – do heed my important warning above about wireless internet. Do confirm you will get **reliable wireless internet** service **from that ISP** at **your house**. You have been warned!!

MORE HELP!! You're last solution doesn't satisfy me (eg Wireless broadband is not suitable OR I want a faster more reliable connection OR there is more than one computer to share the internet connection OR I want to be able to use my laptop anywhere in my house etc etc)

OK, here are some budget plans that might suit a senior (I'm with Bigpond by the way):

ONESeniors (formerly known as TADAust) has special plans for people over 55. Details are at <http://www.oneseniors.com.au/> or you can phone them at 133001. They have a full variety of internet only; phone + internet and mobile + phone + internet plans. Their basic all in one plan of phone, mobile and internet (256 speed) starts at \$20/week; for \$25/week they give 1500 kbps speed which I feel is better value. Both plans include unlimited Australian phone calls to both fixed and mobile phones; unlimited internet usage and includes line rental.

Optus has a special plan for seniors at <https://optus.com.au/shop/broadband/broadbandforseniors> or phone 1800 780 219. Example: \$50 / month gives 5GB data, unlimited fixed line Australian phone calls, \$2 for 20 calls to mobile phones, modem and connection fee. Looks great but there's some bities in the fine print. Eg calls to mobiles 50c/min, 45c flagfall, 1300 numbers 50c. If you very seldom ring mobiles and 1300 numbers then it might be very attractive. If you make frequent calls to Optus mobiles then their \$79/month 'yes' Fusion plan may be better. CHECK ALL PLANS, **particularly the call costs**.

I've heard bad reports about Optus / BigPond / TadAust / OneSeniors / Virgin / Dodo etc, etc.

You will find people who are very happy with their ISP and phone provider as well as others who will really bag them. This is typical of all internet and phone supply companies and often they deserve it with their confusing sales babble. Major problems people seem to have:

- Not reading and understanding what you are signing up for. If you don't understand it then phone a friend(s) or acquaintance(s) that is more knowledgeable and already has the internet.
- Not considering all your options. For eg do you Internet only? Or bundle with your existing phone?
- Failing to look carefully at phone call costs. Work out what it would cost for calls you currently make. Compare them with your current plan
- Not shopping around to see what else is available. Internet and phone suppliers are very competitive and use confusing sales blurbs. You have to sift through it.
- Not connecting equipment properly. A filter is required for every phone you have in the house that is connected to your phone line.
- Not keeping an eye on your internet usage and exceeding your 'quota'. Fortunately these days most ISP's simply reduce your speed which can be frustrating. However some still charge extra if you exceed the quota. Should you incur the excess charges then some ISP's nearly require you to sell your first born child to pay for them. This advice also applies to phone and mobile phone plans that have a so called 'cap'. Read and understand the contract.
- Having a poor quality phone line. If you get static or crackles when making phone calls then you can expect problems with internet connection and speed. (It took this 'self-appointed expert' months to track down an unreliable internet to a dirty connection at the back of the phone socket on the wall. And the wall mounted phone socket was only 12 months old!)
- Not configuring the modem correctly. Most ISP's can easily talk you through these issues over the phone if the modem is supported by them. But you must listen and follow their instructions exactly. If your modem is not supported then you may be on your own which is where it pays to stay on friendly terms with the neighbourhood geek, no matter how smelly they are.
- Not having your payment system set up properly, or failing to update them when you get a new credit or debit card or change bank accounts
- Not reading emails from your ISP.
- Cancelling a contract without looking at the charges for doing so.

Where else can I get information? Below are some very handy websites to research and help you decide which ISP and system to use. Do bear in mind that three are commercial sites and may not provide details of all available ISP's. They are in no order of preference and it pays to check them all. Further, do not take the ISP's costs they quote as gospel as they may not have been updated recently. When you find an attractive plan, go directly to the ISP's site, or phone them and double check for yourself.

www.whirlpool.net.au/ This is by far the most extensive site for searching with. Features are:

- non commercial and thus no bias. On the other hand, although its moderated, anyone can add their opinion.
- it lists every ISP – click 'Broadband Choice' on the left side
- extensive information – click the 'Knowledge Base' link on the left side
- extensive forums that cover many more topics besides the internet. Click 'Discussion Forum' link. For example I found heaps of information on fixing my heat pump hot water system. The forum has good search facilities.
- It is free to join and to ask questions or offer your 20c worth of opinion on the forums.
- The amount of information and links can be daunting, so take your time.
- Industry news and job listings

www.yourbroadband.com.au/ Put in your street address in the small fields near the top of the screen and then press the Go button. This will give you:

- which telephone exchange you are connected to, its distance, if it is ADSL equipped. The further away it is then the slower the speed you will get with an ADSL modem
- The nearest 3G mobile phone towers and their distances. The further away they are then the more trouble you will have getting reliable wireless broadband
- An extensive listing of plans from ISP's. This is very detailed and you may need some help reading it.
- There are good links and information on the right hand side of the page

broadband.theage.com.au (note do not put the 'www' bit at the start of this address). Select your location and type of service then click 'Search'. Don't worry about getting it right as you can easily refine all this at the left side of the results. Features are:

- Advertisements are at the top of the search results
- Quickly alter your search using settings on the left of the search results page
- Click the headings at the top of the search results to sort by that column.
- Gives Internet prices plus price if bundled with a phone service
- It only gives results for the major ISP's

www.adsl2exchanges.com.au/ gives good information about ADSL systems available to your address and phone number

- gives a good estimate of the likely maximum speed you can expect.
- Good FAQ section (Frequently Asked Questions)
- ADSL info only, nothing about wireless
- Doesn't cover all ISP's

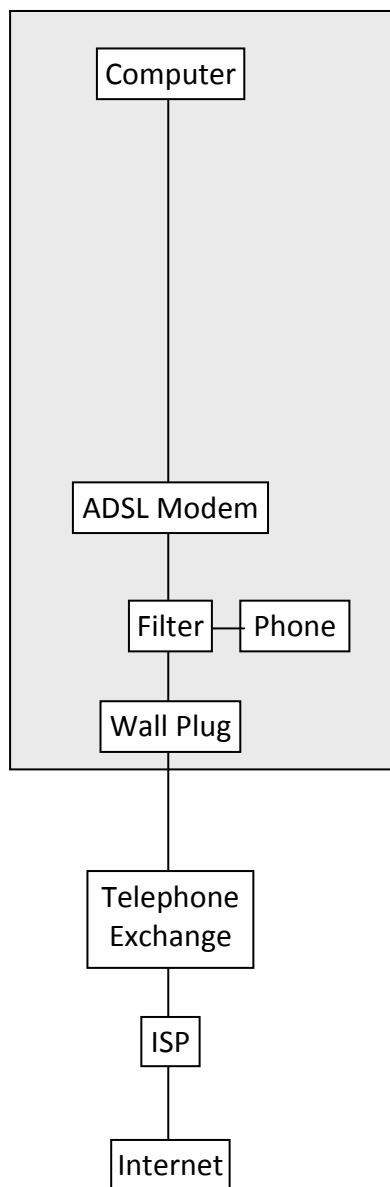
www.comparebroadband.com.au lists what they consider are best value plans for various scenarios. Or click on 'All Broadband Plans' to get detailed search facilities. Just be aware that they put advertisements at the top of the search results (called 'Feature Plan')

Any questions or comments about this should be directed to Keith at harvey45@gmail.com
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Three Possible Internet Connection Systems

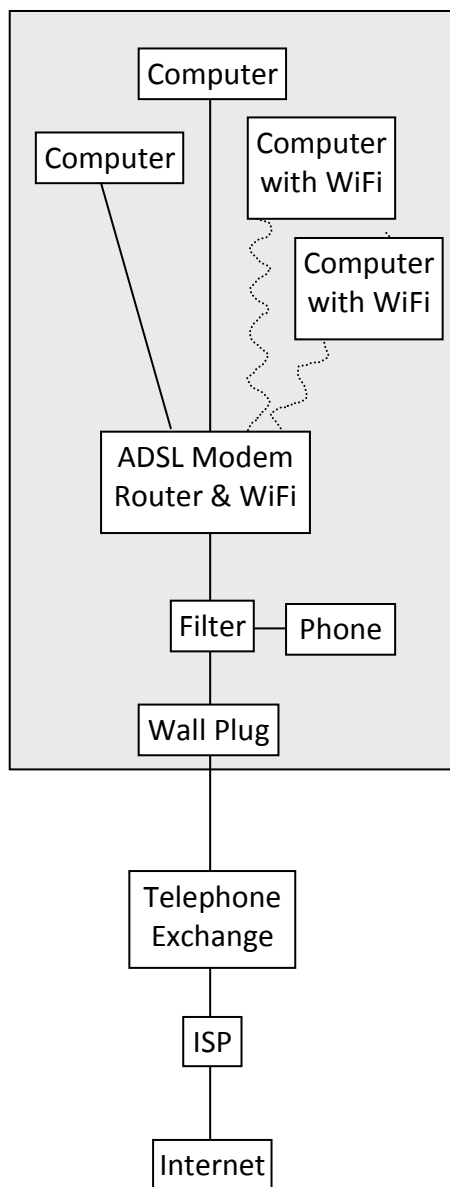
System A

Simple
ADSL Modem
connection



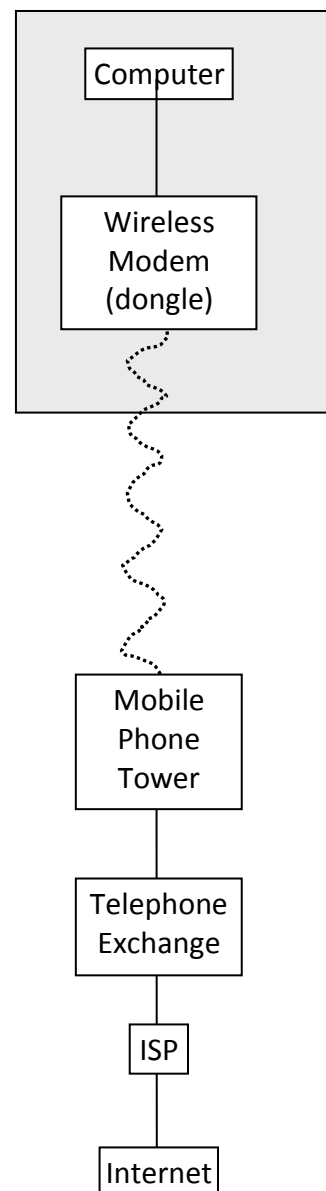
System B

Multiple computers using
an ADSL modem/router
with WiFi



System C

Computer using a
Wireless Modem
(dongle)



Notes:

- The shaded areas represent your stuff. Some may be included as part of your ISP's plan.
- System A: You can convert this to a System B by buying a Wi-Fi Router
- Systems A & B: Only one phone is shown. You can have multiple wired phones so long as each one has a filter on it
- System C: It is possible to buy a Wireless Modem that several computers can connect through
- The straight lines are cables; the wiggly lines are wireless signals. (Don't confuse Wi-Fi and a Wireless Modem. They are both wireless systems but completely different.)
- You have to pay \$ to the ISP AND the phone company. These are often one and the same company. Combining both is called 'bundling'.